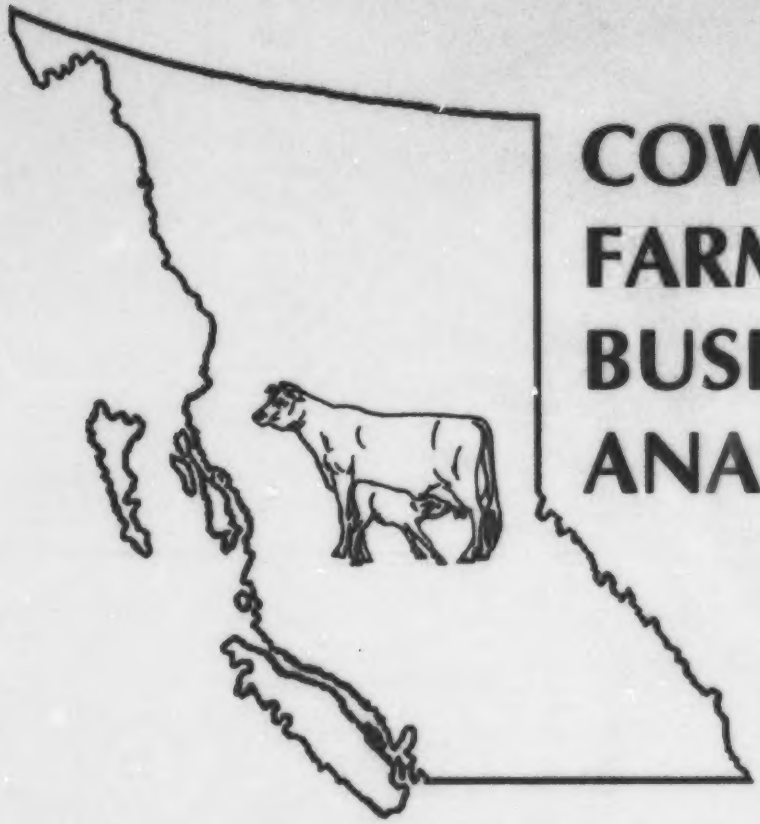

COW - CALF FARM BUSINESS ANALYSIS

Interim Report 1990

Province of British Columbia
Ministry of Agriculture, Fisheries and Food

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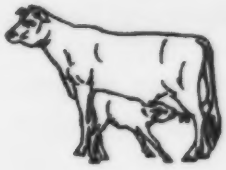

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Preface

This interim report has been compiled mainly for use by owners of ranches who have participated in the 1990 farm business analysis program. It is anticipated some ranchers may be able to make profitable adjustments to their ranch unit as a result of analysis of this type. The information obtained by this program will also be used by Ministry of Agriculture, Fisheries and Food Extension staff when working with other ranchers in the Province.

The data presented in this report was compiled from the information provided by the ranchers who volunteered to participate in the Farm Business Analysis program. It is not a study of the Beef Industry in British Columbia. The information only represents those who participated in the program. For comparison and budgeting purposes it demonstrates what has been accomplished by ranchers in the Province.

The data for this report, which covers the 1989 and 1990 fiscal year was collected during February and March of the year following. Initial analysis and discussion of the results of the analysis were completed on all the ranches during the months of April and May. A production and financial plan for the following year was developed for those who requested it.

Roger Keay should be recognized for his efforts in initiating and supervising this project, analyzing and compiling the data and for his general leadership in completing the Farm Business Analysis Program.

We also wish to thank the staff who participated in the data collection, the District Extension staff who identified those interested in the program and assisted in the interpretation program and the Specialists in the Farm Management Branch who did the explanation and interpretation of the analysis with the individual ranch units.

T.N. Peterson, Director
Farm Management Branch

November 1991

Introduction

Farm Business Analysis - What is It?

A farm business analysis is a tool which will enable farmers to more effectively manage their farm business. It allows farm managers to identify strengths and weaknesses in their operations and take any corrective action required. It allows a farmer to compare his farm to averages of other farms of a similar size to assess how well his business is performing.

The Farm Business Analysis Program allows a farmer to integrate financial and production records. Financial and production records should be an integral part of any farm or ranch operation. Financial records serve at least three important roles: income tax preparation, basis for credit, and decision making. Production records, particularly for beef cattle producers, are essential for diagnosing any problems that may become apparent in the financial side of an operation and for measuring progress toward production goals. Financial and production records thus should be used as complements to one another. Production goals should be evaluated with financial analysis and profitability improvements require a sound understanding of what is happening to production.

It is important to remember that farm business analysis information is only one tool in managing the business. It can identify production problems, inappropriate cost structure, improper debt structure and areas where investment is required. Farm planning and budgeting can then be much more effective to analyze alternatives within the framework of personal and farm goals.

The information will be used for extension purposes. It will be used by the individual ranchers in managing their business and by extension staff for district and regional program planning and implementation.

Farm business analysis helps you ask meaningful questions about your income, costs and the effectiveness of your capital investment in farm assets. In analyzing the profitability of your farm business, you will discover the strengths and weaknesses of your business as well as some possible and profitable changes you could make.

The standards of performance you set for yourself and how well your farm is doing will reflect your goals and the effectiveness of your management of the assets you have available to work with. In making an assessment of how well your farm is doing you can compare your farm performance in several ways.

- You can compare the performance of your farm this year to the performance last year. Have you progressed during the year? What factors contributed to the progress between the two years?

- You can compare your farm to a group of farms with similar capital investment within your own region. The figures provided within this farm business analysis report are useful for this purpose.

- You can compare your farm performance to the results obtained from research studies. This will allow you to compare your performance to the results achieved under research conditions.

To assist you in making a comparison of your farm to the results in this analysis, the following information is provided about the farms which were analyzed.

Figure 1a **The Distribution of Ranches Within the Province (1989)**

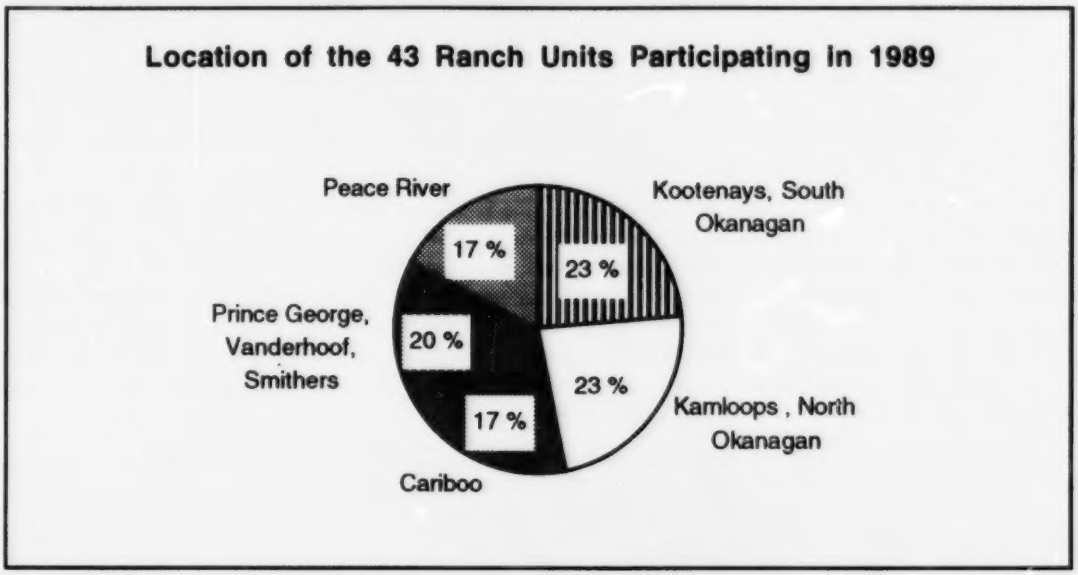
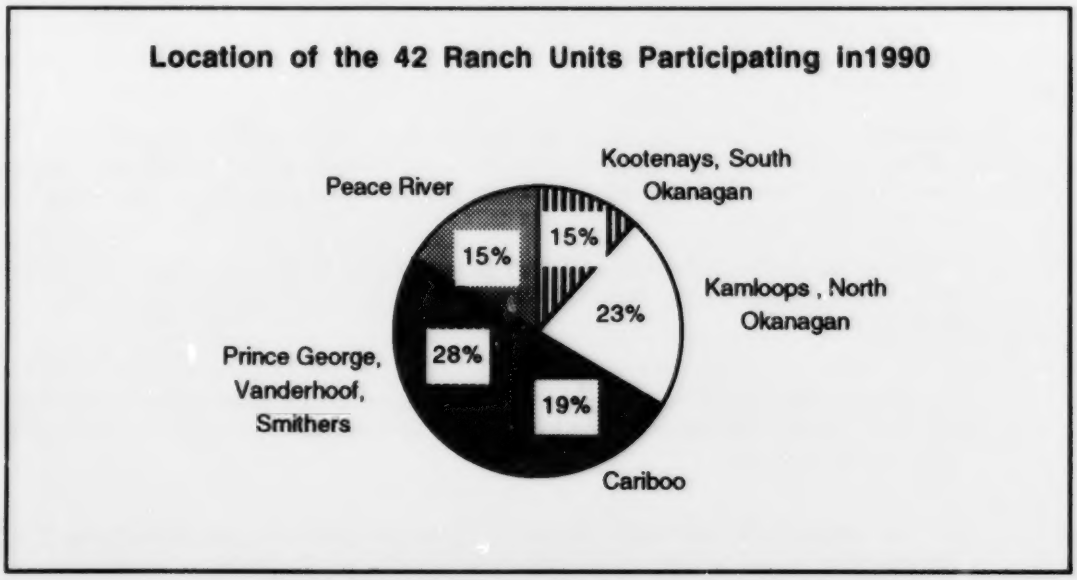


Figure 1b **The Distribution of Ranches Within the Province for 1990**



The distribution of ranches participating in the 1990 program was slightly changed from 1989. There are fewer ranches in the Kootenays, South Okanagan and in the Peace River area. Kamloops, North Okanagan stayed about the same and the Cariboo and Central areas increased their participation.

Figure 2a **Distribution of Farms by Size of Business 1989**

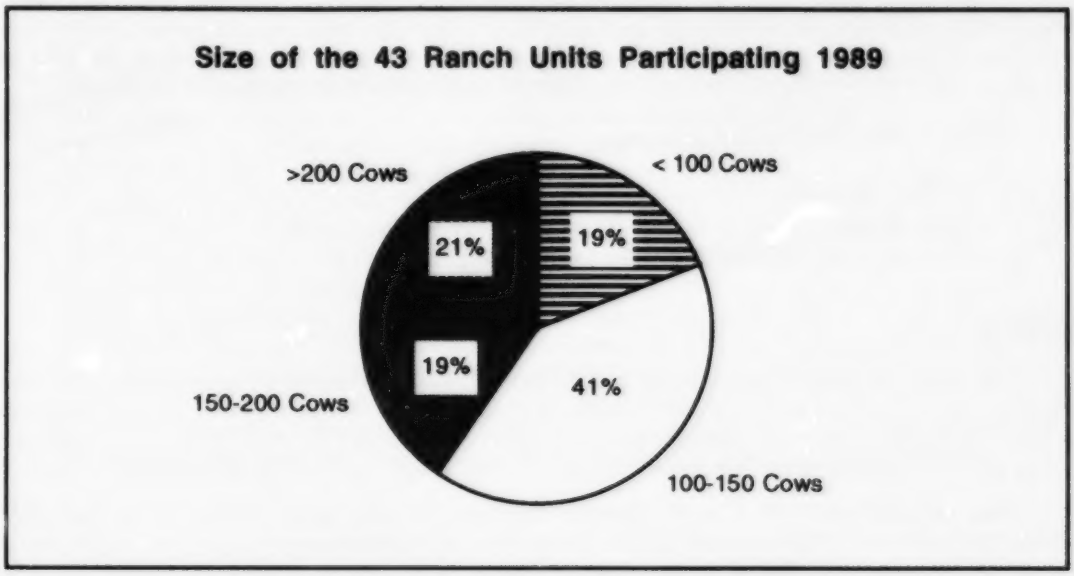
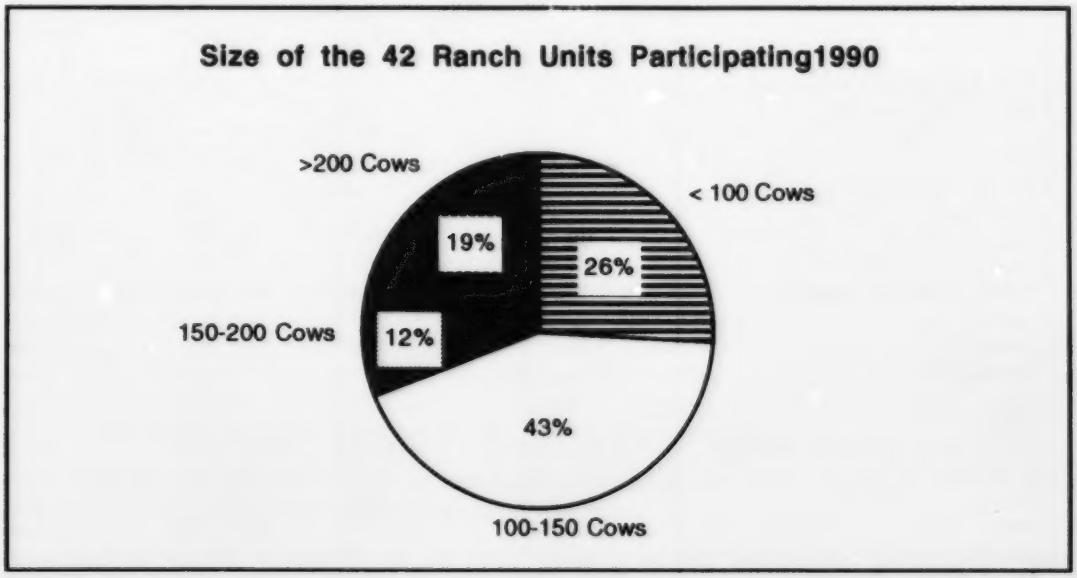


Figure 2b **Distribution of Farms by Size of Business 1990**



There was an increase in the number of ranches with less than 100 cows who participated in the Farm Business Analysis Program for 1990. The number of ranches with between 100 and 150 cows stayed about the same, while the number of ranches with between 150 and 200 and those with over 200 cows decreased.

Average Performance of Ranch Units Studied in 1989 - 1990

In analyzing ranch units to determine performance levels and variations in performance levels amongst farms, some specific factors have been identified to show financial and production effectiveness. The composition of the ranches changed between 1989 and 1990. Twenty ranches included in the 1989 analysis chose not to particiapte in 1990 and ninteen new producers came into the program.

The basic items being looked at include:

1. Capital Structure
2. Profitability
3. Physical Production Performance

Capital Structure

The capital structure and financing is depicted by Table 1 demonstrating the average Net Worth of the 43 farms which were analyzed in 1989 and the 42 farms for 1990. The table shows the average investment on a total and per cow basis. All investments are based on the fair market value of the asset involved on an ongoing basis (i.e. the price at which the asset could be sold, given a reasonable time period).

Also included in Table 1 is the average liabilities or debt owed by the ranch unit. When the liabilities are subtracted from the value of the assets the result is the equity or the value of the unit which is owned by the operator(s). Stated another way the equity is the amount of money the owner would have if the assets were sold at the fair market value and all the debt repaid.

Table 1 The Statement of Assets, Liabilities and Owners Equity

	Year 1989		Year 1990	
	Average Per Ranch	Average Per Cow	Average Per Ranch	Average Per Cow
Average Number of Cows	155	155	138	138
Number of Ranches	43	43	42	42
Cash	8,580	55	18,503	135
Account Receivable	0	0	533	4
Supplies	772	5	880	6
Crop Inventory	36,685	237	33,901	247
Feeder Inventory	24,244	157	18,563	135
Total Current Assets	**70,281**	**455**	**72,380**	**526**
Horses	3,267	21	2,274	17
Cow herd	176,206	1,140	154,885	1,126
Equipment	102,222	661	108,457	789
Car	4,693	30	5,078	37
Other	3,267	21	1,385	10
Total Intermediate Assets	**286,389**	**1,852**	**272,080**	**1,978**
Buildings	51,275	332	37,547	273
House	59,558	385	56,040	407
Land	392,344	2,537	356,682	2,594
Other	2,907	19	6,605	48
Total Fixed Assets	**506,084**	**3,273**	**456,874**	**3,322**
Total Assets	**862,754**	**5,580**	**801,334**	**5,827**
Current Liabilities	28,111	182	21,684	158
Intermediate Liabilities	12,218	79	7,403	54
Long Term Liabilities	73,733	477	53,917	392
Total Liabilities	**114,062**	**738**	**83,003**	**604**
Equity	**748,692**	**4,842**	**718,331**	**5,223**

Ratios to measure the effectiveness of the financial structure are also shown.

These include:

1. Current Ratio; is a measure of liquidity. In the short run are there enough current assets to cover the current debt? A ratio greater than 2 is necessary to be considered in a safe situation with respect to being able to stay in business.
2. Debt - Equity Ratio; is a measure of solvency, it shows the amount of debt per dollar of equity. Obviously the lower the ratio the more stable the operation.
3. Equity - Total Assets; is another measure of solvency, it shows the percentage of the business which is owned by the operator(s).
4. Debt per Cow; is a measure of the risk of the ranch related to the earning capacity of a brood cow. The higher the debt per cow the more difficult it will be to continue meeting the obligations of the ranch unit.
5. Total Assets per Cow; determines the amount of money invested per cow.
6. Depreciable Assets per Cow; measure the investment in assets which are losing value per cow. The higher the value the more depreciation expense which will have to be covered per cow.
7. Capital Turnover; is a measure of the efficiency of the use of capital. It is expressed as the number of years required for the annual revenue to equal the value of the total assets.

Table 2 **Measures of Financial Position**

Average for 43 Ranches (1989) and 42 Ranches (1990)
Participating in the Farm Business Analysis Program

	Average 1989	Average 1990
1. Current Ratio	10.1	11.2
2. Debt Equity Ratio	0.21	0.18
3. Equity as % of Total Assets	86%	88%
4. Debt Per Cow	$721	$751
5. Total Assets Per Cow	$5,383	$5,791
6. Depreciable Assets Per Cow	$1,147	$1,181
7. Capital Turn Over	10.0	8.4

Profitability

The average income and expenses for the farms is shown in Table 3. The statement is prepared using the accrual basis of accounting so cash receipts and expenses have been adjusted by changes in inventory during the year.This Income and Expense Statement forms the basis for the Enterprise Analysis which is included in a following section. For this reason transfers are made between the enterprise. In other words the calves are sold (transferred) at fair market value to the feeder enterprise and the crops used for feed by the cow calf and feeder enterprises is bought (transferred) from the crops enterprise.

Depreciation or the estimated loss in market value of buildings and equipment has been included and is the average of the amounts determined by each ranch manager.

Calculations have been made to the net farm income level only and no attempt has been made to allocate net income to the operator's labour, family labour or return to operator's equity.

Value of Production is a measure of the value of the total production of the ranch during the year. The total value of the crop produced is determined ($44,440 in 1989) and then the amount used for feed ($35,487 in 1989) by the livestock enterprises is subtracted. The difference ($8,917 in 1989) was sold or is in inventory at the end of the year. Using this procedure the contribution of the cropping enterprise to the total ranch is recognized. Inventory changes and purchases have also been included in the calculation of value of production. Nonfarm income is the funds which were realized from other than farming activities. In most situations it is the amount received from the sale of logs or from logging activities. Where logging activities were included the expenses were subtracted from the total logging revenue and only the net amount was entered in the value of production.

Direct Expenses are those expenses which are used directly by a farm enterprise and are always cash expenses. Such expenses include seed, fertilizer, crop and livestock supplies, feed and veterinary and medicine expenses. In other words they are expenses which are used directly by the enterprise and do not have to be allocated to the enterprise.

Indirect Expenses are those expenses which must be allocated to the enterprise. They may be cash or non cash expenses. Examples of such expenses include building and fence repair, land taxes, labor, interest on loans and depreciation.

Table 3 Summary of Income and Expense for the Ranches Analyzed in 1989 and 1990

	1989		1990	
	Per Ranch	Per Cow	Per Ranch	Per Cow
Average Number of Cows	155		138	
Number of Ranches	43		42	
Value of Production				
Cow Herd	71624	463	69910	508
Feeder	6102	39	7523	55
Crop Production	44404	287	40109	292
Farm grown feed	-35487	-229	-33504	-244
FII/NTS	3522	23	3802	28
Other Farm Income	3546	23	3661	27
Non Farm Income	11620	75	10337	75
Value of Production	**105330**	**681**	**101750**	**740**
Direct Expense				
Crop Supplies	1534	10	1460	11
Fertilizer	4657	30	3844	28
Custom Work	863	6	929	7
Irrigation Power	999	6	678	5
Twine/Silo cover	704	5	721	5
Other Crops	575	4	265	2
Feed Supplement	3055	20	2702	20
Mineral & Salt	977	6	1238	9
Vet & Medicine	2782	18	2622	19
Livestock Supplies	418	3	370	3
Marketing & Trucking	3053	20	3138	23
Farm Income Insurance	1698	11	1871	14
Grazing Fees	1736	11	1634	12
Other Livestock	1333	9	461	3
Fuel & Lube.	6479	42	7184	52
Mach. Repair & Maint.	8092	52	7148	52
Other Enterprise Expense	0	0	192	1
Total Direct Exp.	**38954**	**252**	**36456**	**265**
Gross Margin	**66377**	**429**	**65295**	**475**
Indirect Expense				
Building & Fence Repair	2463	16	2212	16
Land Taxes	1166	8	974	7
Cash & Share Rent	263	2	1507	11
Labour	5233	34	5958	43
Other Indirect Expense	7733	50	6597	48
Interest On Term Loans	13720	89	9982	73
Depreciation	9982	65	10007	73
Total Indirect Expense	**40559**	**262**	**37239**	**271**
Total Expense	**79513**	**514**	**73694**	**536**
Net Income	**25817**	**167**	**28056**	**204**

Table 4 shows the average ranch was able to keep as net farm income 19 cents of every dollar of Revenue (value of production). The remaining 81 cents were used to pay the expenses of operating the ranch. The proportion of Total Expense was almost equally divided between Direct and Indirect Expenses. Production efficiency is demonstrated by a low Direct Expense. Efficient use of borrowed money, hired labour and depreciable assets is demonstrated by a low proportion of Indirect Expense.

Table 4 Relationship of Income and Expenses to Value of Production

	Average 1989	Average 1990
Net Income as a % of Value of Production	19%	25%
Expenses as a % of Value of Production	81%	75%
Direct Expenses as a % of Value of Production	41%	37%
Indirect Expenses as a % of Value of Production	40%	38%
Interest Expense as a % of Value of Production	13%	10%

Physical Production Performance

The physical production performance of the farm units is shown in Table 5.

1. Pounds of Calf weaned per Cow overwintered; is an overall measure of the efficiency of the cowherd as it combines the impact of calving percentage and calf weaning weight. Cows overwintered is used as the basis as this is the most expensive production period.
2. Weaning Percent; is the percentage of the cows overwintered who weaned a calf in the fall. It is a measure of the efficiency of the culling procedures (no open cows kept over the winter), calf health (low calf death loss) and a low number of abortions.
3. Replacement Percentage; is the percent of the herd which was replaced during the year. An increase in the culling rate from one year to the next may indicate a fertility problem in the herd. A continuously low culling rate will result in a herd made up of a high percentage of old cows.
4. Cow Death Loss; the number of cows which died as a percentage of those on beginning inventory.
5. Steer Weight; average weaning weight of the steers.
6. Heifer Weight; average weaning weight of the heifers.
7. Steer Price; average price per pound received for the steers.
8. Heifer Price; average price per pound received for the heifers
9. Cull Cow Weight; average weight of cows culled.
10. Cull Bull Weight; average weight of bulls culled.
11. Cull Cow Market Price; average price per pound received for cull cows.
12. Cull Bull Market Price; average price per pound received for cull bulls.
13. Winter Feed Per Cow; is the hay equivalent of the forage used for winter feed for the entire herd.

Table 5 Summary of Performance Factors for the Ranches Analyzed in 1989 and 1990

		1989	1990
1. Pounds of Calf Weaned per Cow Overwintered	Pounds	488	511
2. Weaning Percent (Based on number of cows overwintered)	Percent	90.2%	92.4%
3. Replacement Percentage	Percent	16.7%	19.3%
4. Cow Death Loss	Percent	1.7%	1.3%
5. Steer Weight	Pounds	556	569
6. Heifer Weight	Pounds	529	534
7. Steer Price	Dollars	1.03	1.03
8. Heifer Price	Dollars	0.91	.94
9. Cull Cow Weight	Pounds	1128	1148
10. Cull Bull Weight	Pounds	1722	1808
11. Cull Cow Market Price	Dollars	0.52	.57
12. Cull Bull Market Price	Dollars	0.62	.71
13. Forage per Cow (Hay Equivalent)	Tons	3.1	3.6

Analysis of Ranch Units By Income Level

This section deals with an analysis of the 42 ranch units to determine the major differences between those earning high levels of net farm income and those earning low levels of net farm income. To carry out the analysis, the ranches were sorted into four groups according to the level of net farm income. In order to determine the factors affecting net farm income the non-farming income (mostly the sale of logs or a logging enterprise) was removed to isolate the impact of farm production efficiencies on net farm income.

The range in net farm income earned was large. The highest net farm income was over $60,000 while the lowest net farm income was a loss of over $35,000.

Table 6 shows the high income ranches averaged $53,335 per ranch while the low income group averaged a loss of -$15,550. The average for all 42 ranches was $17,807.

Table 6 Total Ranch Income and Expense Per Farm by Level of Net Farm Income and the Average of All Ranches

	High Net Farm Income	Group 2	Group 3	Low Net Farm Income	Average All Farms
Year 1990					
Average Number of Cows	174	129	115	134	138
Number of Ranches	10	11	10	11	42
Value of Production					
Cow Herd	92,958	72,981	54,869	59,558	69,910
Feeder	6,702	3,736	4,710	14,616	7,523
Crop Production	53,375	36,189	35,284	36,354	40,109
Farm grown feed	-38,295	-31,864	-28,772	-35,089	-33,504
FII/NTS	4,291	3,698	2,964	4,224	3,802
Other Farm Income	4,469	4,017	3,223	2,999	3,661
Value of Production	**123,500**	**88,757**	**72,277**	**82,663**	**91,501**
Direct Expense					
Crop Supplies	2,551	1,836	2,536	2,878	2,446
Fertilizer	4,985	4,127	2,946	3,341	3,844
Custom Work	129	1,173	1,323	1,056	929
Irrigation Power	1,270	110	375	982	678
Feed Supplement	2,120	1,151	2,471	4,991	2,702
Mineral & Salt	1,715	892	1,222	1,164	1,238
Vet & Medicine	2,911	2,600	2,001	2,946	2,622
Livestock Supplies	781	992	835	711	831
Marketing & Trucking	3,394	2,312	2,485	4,322	3,138
Farm Income Insurance	2,353	1,601	1,424	2,110	1,871
Grazing Fees	2,539	1,456	1,578	1,040	1,634
Fuel & Lube.	7,538	6,170	6,545	8,456	7,184
Mach. Repair & Maintenance.	6,321	7,065	6,509	8,564	7,148
Other Enterprise Expense	195	0	610	0	192
Total Direct Exp.	**38,802**	**31,486**	**32,859**	**42,562**	**36,456**
Gross Margin	**84,698**	**57,271**	**39,419**	**40,101**	**55,045**
Indirect Expense					
Building & Fence Repair	1,498	1,787	2,370	3,144	2,212
Land Taxes	797	903	813	1,352	974
Land Cash Rent	824	3,006	1,578	566	1,507
Labour	4,440	4,357	3,974	10,745	5,958
Other Indirect Expenses	5,747	6,237	4,973	9,207	6,597
Operating. Interest. & Svc. Charges.	2,607	1,964	2,039	5,018	2,935
Interest On Term Loans	5,626	5,592	4,331	12,263	7,047
Depreciation	9,824	7,491	9,273	13,357	10,007
Total Indirect Expense	**31,364**	**31,337**	**29,351**	**55,651**	**37,239**
Total Expense	**70,166**	**62,823**	**62,210**	**98,213**	**73,694**
Net Farm Income	**53,335**	**25,933**	**10,067**	**-15,550**	**17,807**

What caused the significant difference in earnings between the high income group and the low income group?

It is interesting to note what the differences in income and expenses are. Table 6 shows the level of income and expenses for the selected items. Table 7 shows the information on a per cow basis. **This data can be used for analysis or comparison purposes. For budgeting data the enterprise data in Table 12 for cow calf and Table 13 for crops will be more useful.**

In Table 7 one can point out that the difference in total value of production for the four groups is not as large as the difference in net farm income. That leads us to the other major point of Table 7 that total expense makes up most of the difference between the net farm income of the four groups. Table 8 shows the extent the total expenses deduct from the value of production in the low income groups. Total expenses rise from 49% of value of production in the High Net Farm Income group to 78% in Group #3 and 103% in Low Net Farm Income group. Looking at Table 7, the two direct expenses with the greatest difference between groups are fuel and lubrication costs and machinery repair & maintenance. There is a substantial gap between the High Income group and the Low Income group in most indirect expenses with labor, interest and depreciation clearly being the largest contributing factors.

Table 7 Income and Expense Per Cow by Level of Net Farm Income

	High Net Farm Income	Group 2	Group 3	Low Net Farm Income	Average All Farms
Year 1990					
Average Number of Cows	174	129	115	134	138
Number of Ranches	10	11	10	11	42
Value of Production					
Cow Herd	535	566	478	445	508
Feeder	39	29	41	109	55
Crop Production	307	281	307	271	292
Farm grown feed	-220	-247	-251	-262	-244
FII/NTS	25	29	26	32	28
Other Farm Income	26	31	28	22	27
Value of Production	**711**	**689**	**629**	**617**	**665**
Direct Expense					
Crop Supplies	15	14	22	21	18
Fertilizer	29	32	26	25	28
Custom Work	1	9	12	8	7
Irrigation Power	7	1	3	7	5
Feed Supplement	12	9	22	37	20
Mineral & Salt	10	7	11	9	9
Vet & Medicine	17	20	17	22	19
Livestock Supplies	4	8	7	5	6
Marketing & Trucking	20	18	22	32	23
Farm Income Insurance	14	12	12	16	14
Grazing Fees	15	11	14	8	12
Fuel & Lube.	43	48	57	63	52
Mach. Repair & Maintenance.	36	55	57	64	52
Other Enterprise Expense	1	0	5	0	1
Total Direct Exp.	**223**	**244**	**286**	**318**	**265**
Gross Margin	**488**	**444**	**343**	**299**	**400**
Indirect Expense					
Building & Fence Repair	9	14	21	23	16
Land Taxes	5	7	7	10	7
Land Cash Rent	5	23	14	4	11
Labour	26	34	35	80	43
Other Indirect Expenses	33	48	43	69	48
Operating. Interest. & Svc. Charges.	15	15	18	37	21
Interest On Term Loans	32	43	38	92	51
Depreciation	57	58	81	100	73
Total Indirect Expense	**181**	**243**	**256**	**416**	**271**
Total Expense	**404**	**488**	**542**	**733**	**536**
Net Farm Income	**307**	**201**	**88**	**-116**	**129**

Table 8 The Relationship of Net Income and Expense as a Percent of Value of Production

Year 1990	High Net Farm Income	Group 2	Group 3	Low Net Farm Income	Ave. All Ranches
Average Number of Cows	174	129	115	134	138
Number of Ranches	10	11	10	11	42
Net Farm Income as a % of Value of Production	45.6%	30.5%	14.5%	-26.5%	15.4%
Expenses as a % of Value of Production	54.4%	69.5%	85.5%	126.5%	84.6%
Direct Expenses as a % of Value of Production	30.9%	35.2%	45.0%	53.6%	41.3%
Indirect Expenses as a % of Value of Production	23.5%	34.4%	40.5%	72.8%	43.3%
Interest Cost as % of Value of Production	4.1%	5.9%	6.7%	14.2%	7.8%

Table 9 Statement of Assets, Liabilities and Owner's Equity Per Ranch by Level of Net Farm Income

Year 1990	High Net Farm Income	Group 2	Group 3	Low Net Farm Income	Average All Farms
Number of Cows	174	129	115	134	138
Number of Ranches	10	11	10	11	42
Current Assets					
Cash	34,746	18,154	15,547	6,773	18,503
Accounts Receivable	380	217	0	1,473	533
Supplies	852	739	784	1,135	880
Crops	45,607	31,861	27,151	31,437	33,901
Feeders	14,301	14,266	17,528	27,673	18,563
Total Current Assets	**95,885**	**65,238**	**61,010**	**68,491**	**72,380**
Intermediate Assets					
Horses for Farm Work	1,980	1,873	1,610	3,545	2,274
Cow Herd	208,730	147,330	126,765	139,054	154,885
Total Equipment Investment	110,362	98,081	93,218	130,956	108,457
Car	2,760	1,955	6,027	9,445	5,078
Other	146	157	5,500	0	1,385
Total Intermediate Assets	**323,978**	**249,396**	**233,121**	**283,001**	**272,080**
Fixed Assets					
Total Building investment	28,409	27,636	34,912	58,160	37,547
House	43,320	44,909	60,700	74,500	56,040
Land	256,302	211,683	261,660	679,318	356,682
Other	1,400	18,182	342	5,455	6,605
Total Fixed Assets	**329,431**	**302,410**	**357,613**	**817,433**	**456,874**
Total Assets	**749,294**	**617,044**	**651,744**	**1,168,925**	**801,334**
Current Liabilities	20,506	12,217	13,455	39,703	21,684
Intermediate Liabilities	6,496	11,538	2,508	8,541	7,403
Long Term Liabilities	47,909	28,099	43,384	94,771	53,917
Total Liabilities	**74,911**	**51,854**	**59,347**	**143,015**	**83,003**
Owner's Equity	**674,383**	**565,190**	**592,397**	**1,025,910**	**718,331**
Total Liab. & Owners Equity	**749,294**	**617,044**	**651,744**	**1,168,925**	**801,334**

One of the most important of the ratios in Table 10 for indicating a ranch's financial stability is debt per cow. The High Net Farm Income group has a substantially lower debt per cow ratio than does Group 2 or Group 3 and has less than 30 per cent of the debt owed by the Low Income group. This is partly due to the lower total liabilities and partly to the higher number of cows in the High Income group. The high interest cost for indirect expenses per cow in Table 7 is explained with the high debt per cow ratio of Group 3 and the Low Income group. The Total Assets per cow and the depreciable assets per cow is much higher for Group 3 and the Low Income group than it is for the High Income group and Group 2 which explains the high depreciation costs in Table 7 of the low income groups. As well as having a huge debt there is an imbalance between the investment in capital assets and the investment in cows.

Table 10 **Measures of Financial Position by Level of Net Farm Income and Average for All Ranches**

Total Ranch Year 1990	High Net Farm Income	Group 2	Group 3	Low Net Farm Income	Average All Farms
Average Number of Cows	174	129	115	134	138
Number of Ranches	10	11	10	11	42
1. Current Ratio	23.9	14.1	3.4	1.5	11.2
2. Debt Equity Ratio	0.14	0.09	0.11	0.37	0.18
3. Equity as Percent of Total Assets	90%	92%	91%	80%	88%
4. Debt Per Cow	393	423	656	1491	751
5. Assets Per Cow	3968	4760	5306	8919	5791
6. Depreciable Assets Per Cow	824	1022	1166	1705	1188
7. Capital Turn over	5.3	6.9	8.2	13.0	8.4

Table 11 **Summary of Performance Factors by Level of Net Farm Income and Average for All Ranches**

Year 1990	High Net Farm Income	Group 2	Group 3	Low Net Farm Income	Average All Farms
Average Number of Cows	174	129	115	134	138
Number of Ranches	10	11	10	11	42
1. Calves weaned per cow overwintered	92.4%	95.5%	92.4%	89.3%	92.4%
2. Pounds of calf weaned per cow overwintered	545	552	501	446	511
3. Per cent of cow herd replaced during year	18.3%	25.2%	16.9%	16.4%	19.3%
4. Cow death loss	1.6%	1.1%	1.0%	1.6%	1.3%
5. Steer weight	607	595	563	513	569
6. Heifer weight	573	559	517	488	534
7. Steer price per pound	1.0347	1.0245	1.0260	1.0490	1.0337
8. Heifer price per pound	0.9559	0.9430	0.9610	0.9210	0.9446
9. Cow weight	1229	1152	1113	1103	1148
10. Bull Weight	1871	1891	1836	1625	1808
11. Cull cow price per pound	0.5388	0.5602	0.5932	0.5734	0.5664
12. Cull bull price per pound	0.7363	0.6812	0.6894	0.7469	0.7132
13. Total forage per cow(hay equivalent)	3.9	3.6	3.8	2.9	3.5

On the other side of expenses on the net farm income equation is value of production. The performance factors which contribute to a high value of production are examined in Table 11. From these figures it can be seen that prices did not play a large factor. The total forage per cow for the High Income group can be explained by the number of ranchers from the Peace who ended up in the high income group. The longer feeding period in the north requires more forage per cow than is the case further south.

Enterprise Analysis

Enterprise gross margins allows us to look at the performance of each enterprise as it contributed to net farm income. Only direct expenses used by the enterprise are deducted from the value of production of the enterprise. Table 12 shows how much the cow calf operation had remaining after direct expenses. As expected, the gross margin decreased along with the decrease in net farm income. This is the result of a combination of lower value of production and increased direct expenses for those low income groups.

Table 12 **Cow Calf Enterprise Gross Margin Per Cow by Net Farm Income Level and Average for All Ranches**

Year 1990	High Net Farm Income	Group 2	Group 3	Low Net Farm Income	Average All Farms
Number of Ranches	10	11	10	11	42
Cow Calf Enterprise					
Number of Cows	174	129	115	134	138
Value of Production	**566.75**	**598.01**	**520.22**	**457.52**	**535.25**
Direct Expense					
Farm Grown Feed	205.10	221.51	244.97	210.62	220.34
Feed Supplement	7.96	7.94	10.86	12.69	9.89
Mineral & Salt	8.61	6.12	8.60	7.75	7.73
Vet & Medicine	15.13	19.12	16.78	19.38	17.68
Livestock Supplies	1.84	4.12	0.79	2.42	2.34
Marketing & Trucking	16.42	15.53	18.18	22.34	18.16
Farm Income Insurance	10.85	12.10	12.09	11.05	11.53
Grazing Fees	14.01	9.66	13.57	6.86	10.90
Other Livestock	3.34	3.87	0.81	2.91	2.76
Fuel & Lube	9.62	11.04	10.72	13.18	11.19
Mach. Repair & Maintenance.	6.55	10.43	9.42	12.21	9.73
Total Direct Expense	**299.44**	**321.45**	**346.80**	**321.42**	**322.23**
Gross Margin	**267.32**	**276.56**	**173.43**	**136.10**	**213.02**

Table 13 **Crop Enterprise Gross Margin Per Acre by Net Farm Income Level and Average for All Ranches**

Year 1990	High Net Farm Income	Group 2	Group 3	Low Net Farm Income	Average All Farms
Number of Ranches	10	11	10	11	42
Crops Enterprise					
Number of Acres	422	325	268	288	325
Value of Production	**145.37**	**125.65**	**161.51**	**146.51**	**144.35**
Direct Expense					
Crop Supplies	3.71	3.94	5.04	9.07	5.49
Fertilizer	14.64	15.13	15.20	12.02	14.22
Custom Work	0.28	4.02	5.03	3.15	3.14
Irrigation Power	3.97	1.00	2.77	3.61	2.81
Twine & Silo Cover	2.84	2.53	2.79	2.23	2.59
Other Crops	0.68	0.01	3.36	0.30	1.04
Farm Grown Seed	0.00	0.85	0.00	0.00	0.22
Fuel & Lube	14.38	14.35	21.27	21.31	17.83
Mach. Repair & Maintenance.	13.64	18.16	21.53	24.82	19.63
Total Direct Expense	**54.15**	**59.99**	**76.99**	**76.51**	**66.98**
Gross Margin	**91.22**	**65.65**	**84.52**	**70.00**	**77.37**

Analysis of Ranch Units by Region of the Province

The following tables provide the details of Income and Expense per ranch on a regional basis for comparison and interest. This provides the farm manager to compare himself against operations which are a little closer to home. These tables are not provided in an attempt to determine which area of the Province is the "best" place to raise cattle.

Table 14 **Total Ranch Income and Expense per Ranch by Region and the Average for All Ranches**

Year 1990	Kootenays South OK	North OK Kamloops	Williams Lake	Central	Peace River	Average All Farms
	----------	----------	----------	Per Farm ----------	----------	----------
Average Number of Cows	167	131	139	137	123	138
Number of Ranches	5	9	9	12	7	42
Value of Production						
Cow Herd	76559	66499	63330	75504	68414	69910
Feeder	7114	11074	12096	3565	4157	7523
Crop Production	41172	33706	48191	45562	27840	40109
Farm grown feed Used by livestock	-38517	-33117	-34913	-35542	-25113	-33504
FII/NTS	3307	4924	3131	3690	3770	3802
Other Farm Income	1475	5670	2898	2029	5893	3573
Non Farm Income	35322	10893	2527	8192	5491	10337
Value of Production	**126432**	**99648**	**97261**	**103001**	**90452**	**101750**
Direct Expense						
Crop Supplies	2374	2870	2491	2409	1957	2446
Fertilizer	3698	3333	4076	5437	1578	3844
Custom Work	296	398	2210	944	394	929
Irrigation Power	3955	395	571	0	0	678
Feed Supplement	3288	3731	4709	1510	421	2702
Mineral & Salt	1257	1710	1049	1105	1086	1238
Vet & Medicine	1955	3206	2685	2700	2133	2622
Livestock Supplies	528	1010	815	657	1136	831
Marketing & Trucking	3147	3608	2731	2863	3518	3138
Farm Income Insurance	1819	1925	2365	1662	1563	1871
Grazing Fees	2502	1640	1092	1387	2125	1634
Fuel & Lube.	6243	6735	7875	7250	7430	7184
Mach. Repair & Maintenance.	9081	6637	8123	6778	5807	7148
Other Enterprise Expense	0	567	0	0	421	192
Total Direct Exp.	**40144**	**37765**	**40792**	**34702**	**29568**	**36456**
Gross Margin	**86288**	**61883**	**56468**	**68299**	**60884**	**65295**
Indirect Expense						
Building & Fence Repair	2195	1960	2045	3066	1301	2212
Land Taxes	909	875	1036	1355	416	974
Land Cash Rent	3579	630	1504	1676	871	1507
Labour	12594	4937	5541	6894	1466	5958
Other Indirect Expense	6979	6330	6996	6857	5711	6597
Interest On Loans	16312	14308	7445	6592	8972	9982
Depreciation	9752	8638	13754	10390	6474	10007
Total Indirect Expense	**52319**	**37677**	**38322**	**36831**	**25210**	**37239**
Total Expense	**92463**	**75442**	**79114**	**71532**	**54779**	**73694**
Net Income	**33969**	**24206**	**18146**	**31469**	**35674**	**28056**

Table 15 **Cow Calf Enterprise Gross Margin Per Cow by Region and Average for All Ranches**

Year 1990	Kootenays South OK	North OK Kamloops	Cariboo	Central	Peace River	Average All Farms
Number of Ranches	5	9	9	12	7	42
Average Number of Cows	**167**	**131**	**139**	**137**	**123**	**138**
Value of Production	**501.02**	**502.76**	**481.00**	**586.64**	**583.14**	**535.25**
Direct Expense						
Farm Grown Feed	203.11	224.14	219.61	239.34	196.10	220.34
Feed Supplement	8.96	10.53	16.30	8.88	3.19	9.89
Mineral & Salt	6.18	10.54	6.19	7.32	7.90	7.73
Vet & Medicine	12.60	18.91	18.78	18.69	16.60	17.68
Livestock Supplies	2.98	1.42	1.97	1.84	4.40	2.34
Marketing & Trucking	15.23	19.21	13.07	18.20	25.37	18.16
Farm Income Insurance	10.40	11.41	12.91	11.54	10.68	11.53
Grazing Fees	13.19	12.53	7.61	8.86	14.87	10.90
Other Livestock	0.00	3.03	3.76	3.26	2.25	2.76
Fuel & Lube	8.82	14.82	10.78	11.14	8.81	11.19
Mach. Repair & Maint.	8.88	12.82	10.61	8.31	7.68	9.73
Total Direct Expense	**290.34**	**339.37**	**321.59**	**337.38**	**297.85**	**322.23**
Gross Margin	**210.68**	**163.39**	**159.41**	**249.25**	**285.29**	**213.02**

Table 16 **Summary of Performance Factors by Region and Average for All Ranches**

Year 1990	Kootenays South OK	North OK Kamloops	Cariboo	Central	Peace River	Average All Farms
Number of Ranches	5	9	9	12	7	42
Average Number of Cows	167	131	139	137	123	138
1. Weaning Percent	90%	92%	93%	94%	93%	92%
2. Lbs of Calf Weaned per Cow	475	490	483	543	542	511
3. Cow Herd Replacement Percentage	12%	16%	22%	24%	19%	19%
4. Cow Death Loss	1.6%	1.2%	1.4%	1.5%	0.9%	1.3%
5. Steer Weight	546	550	539	595	602	569
6. Heifer Weight	510	511	505	565	557	534
7. Steer Price	1.0363	1.0306	1.0474	1.0156	1.0404	1.0337
8. Heifer Price	0.9214	0.8973	0.9664	0.9243	0.9866	0.9446
9. Cull Cow Weight	1110	1085	1146	1191	1182	1148
10. Cull Bull Weight	1850	1921	1587	1929	1866	1808
11. Cull Cow Price Per Pound	0.5831	0.5789	0.5493	0.5685	0.5523	0.5664
12.Cull Bull Price Per Pound	0.7122	0.7399	0.6899	0.6870	0.7721	0.7132
13. Total Forage Per Cow (Hay Equiv.)	3.0	3.0	3.0	3.5	5.1	3.5

Table 17

Crop Enterprise Gross Margin per Acre by Region and Average for All Ranches

Year 1990	Kootenays South OK	North OK Kamloops	Cariboo	Central	Peace River	Average All Farms
Number of Ranches	5	9	9	12	7	42
Crops Enterprise						
Number of Acres	220	161	361	366	490	325
Value of Production	**202.71**	**207.04**	**128.56**	**136.83**	**55.21**	**144.35**
Direct Expense						
Crop Supplies	8.22	9.79	4.19	3.93	2.37	5.49
Fertilizer	17.47	22.23	9.85	16.45	3.38	14.22
Custom Work	1.82	3.14	5.39	3.29	0.95	3.14
Irrigation Power	15.30	3.26	1.36	0.00	0.00	2.81
Twine & Silo Cover	2.44	4.37	1.59	2.76	1.41	2.59
Other Crops	0.47	3.02	0.98	0.27	0.32	1.04
Farm Grown Seed	0.00	0.00	0.00	0.13	1.13	0.22
Fuel & Lube	20.63	23.66	17.32	15.19	13.48	17.83
Mach. Repair & Maint.	28.32	28.25	18.28	15.69	10.81	19.63
Total Direct Expense	**94.67**	**97.72**	**58.96**	**57.71**	**33.85**	**66.98**
Gross Margin	**108.04**	**109.32**	**69.61**	**79.13**	**21.36**	**77.37**

The brief explanation found in this report is meant as a guideline to assist the rancher in using the numbers in the report. Each rancher should study his own numbers, comparing them to other ranches in the region and to higher income ranches to try to recognize problem areas.

Vern A. Burkhardt
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